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CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN

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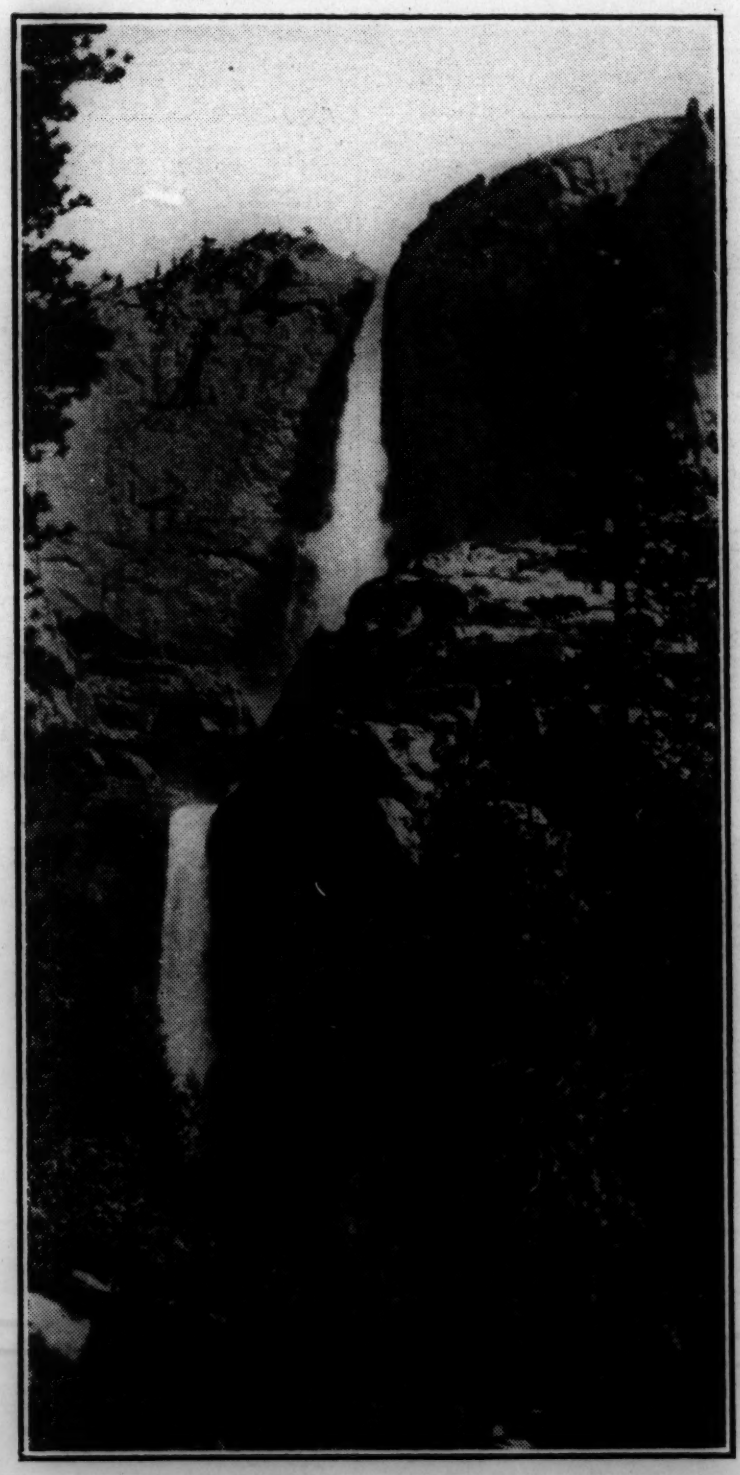

If every Californian could drink water like the melted snow of the high Sierras as it plunges over the brink of Yosemite Falls, or just after it reaches the foot of this magnificent cascade, with a roar and thunder that shakes the surrounding rocks, public health authorities would be relieved of great responsibilities in providing safe drinking water for the people of the state. These melted snows do not travel far down the sunny slopes of the Sierras before they become contaminated by both men and animals, making them unsafe for drinking purposes, unless properly treated. This is one of the great penalties of civilization—another instance of where "man becomes man's worst enemy." Only incessant, well-directed effort can possibly safeguard public water supplies.

CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN

A Journal for the Promotion of Public Health

CALIFORNIA STATE BOARD OF HEALTH

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SACRAMENTO, JULY, 1920.

The Old Bulletin In Shorter Skirts.

Paper costs 100 per cent more than it did when the last legislature made its printing appropriation for the State Board of Health, and labor costs have advanced 28 per cent since that time. The appropriation remains the same, however, and it has consequently become necessary to apply the trimming shears to our Monthly Bulletin.

Tabular matter, which is expensive, must be eliminated from our publications to as great an extent as possible, but this does not mean that information on vital statistics, communicable disease, biological examinations, tuberculosis, social hygiene, etc., will not be available. Any citizen who desires data on any activity of the State Board of Health may be sure that his request will receive prompt attention. Copies of any of the tables pertaining to vital statistics, morbidity, etc., such as have heretofore been published in the Monthly Bulletin, may be obtained upon making specific request.

This publication will endeavor to give condensed information on the trend of public health affairs in California. It will advise the public of the prevalence of the communicable diseases, and will endeavor to assist not only health officers and nurses, but the lay public as well, in giving specific information for the control of outbreaks of these diseases and in the correction of environmental conditions that may have to do with the rise and spread of communicable diseases.

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Effective Method for the Control of Syphilis.

During the past twenty-two months the Bureau of Social Hygiene of the California State Board of Health has distributed to 22 clinics in 15 California cities 22,281 ampoules of arsenobenzol for administration, free of cost, to syphilitic patients who are unable to pay for treatment. The persons receiving these treatments belong to a class of disseminators of venereal disease.

A relatively small proportion of those receiving treatments are professional prostitutes. Most of them belong to the clandestine group. Most of these persons, had they not been made noninfectious, would have transmitted the disease to several others and perhaps to a large number of other persons. Clandestine prostitution will never be exterminated, but individuals who are responsible for the spread of syphilis can be rendered noninfectious.

It is doubtful if there is any immediate measure for the control of venereal disease that is so effective as the administration of salvarsan products. There are many social measures, the application of which may, in the end, produce more lasting results, but it is doubtful if, at the present time, any single measure is more efficacious than the provision of easily accessible treatments for syphilis.

A Toast to Water.

A southern colonel at a banquet in Arkansas recently offered the following toast to "water."

"Water—the purest and best of all things that God created. I want to say to you that I have seen it glisten in tiny teardrops on the sleeping lids of infants. I have seen it trickle down the blushing cheeks of youth, and go in rushing torrents down the wrinkled cheeks of age. I have seen it in tiny dewdrops like polished diamonds when the morning sun burst in resplendent glory o'er the eastern hills. I have seen it in the rushing stream rippling over pebbly bottoms; in the river rushing over precipitious falls in its mad rush to join the mighty Father of Waters, and I have seen it in the mighty ocean on whose broad bosom float the battle fleets of all nations and the commerce of the world—but, ladies and gentlemen, I want to say to you now, that as a beverage it's a damned failure."

We, too, have seen it on the mighty ocean shores choked with garbage, rubbish and decayed fruits, a menace to the health of bathers and the men who man the ships of commerce and of war. We have seen it in the mighty Father of Waters supporting bodies of dead animals, raw sewage and other filth. We have seen it in the placid river and in the roaring falls, carrying camp refuse, decayed vegetation, tin cans, papers and spoiled food. We have seen it in the trickling springs where lowly cattle cool their feet and in still pools where mosquitoes come to life. We, too, have seen it on the weary lids of sick children, fevered youths and old folks, on their noses and their mouths, and we want to say now and here that—you are right, colonel, as a beverage it is a damned failure—unless you know it's pure.

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Prohibition and Public Convenience Stations.

Since the passing of the corner saloon the need for public convenience stations has received considerable attention in many California cities. Dr. W. J. Hanna, health officer of Sacramento, has brought the matter before the city commission and has urged that action be taken toward establishing public comfort stations in the business district of the city as well as in the city parks, in some of which such stations are already in operation. It is strange that cities are willing to spend hundreds of thousands of dollars for elaborate sewage disposal equipment without making adequate provision for preventing the promiscuous disposal of sewage. Strangers in our cities, automobile tourists, shoppers and other transients must now depend upon drug stores, department stores, garages, barber shops, pool and billiard halls to provide them with necessary toilet facilities. Too often such places are not maintained in a sanitary manner and are not a credit to the city. The provision of easily accessible, clean, well-ventilated convenience stations will do credit to any community and the establishment of such stations may have more to do with maintaining both personal and public health than we realize.

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A Movement to Make Restaurants Cleaner.

Restaurant proprietors, nationally, have formed an association, the first fundamental principle of which is sanitation, according to their statement, which reads as follows: "The long felt want of cleaner restaurants has been keenly realized by the leaders in this industry who have begun to know that the reputation of the restaurant business has been badly damaged by those in the industry who are not running strictly clean places. The association was organized for the purpose of educating the restaurateur regarding the importance of sanitation in his business, and more than that, to guide the public to these places which are striving to run on a clean basis." That patrons desire clean food served in a cleanly and sanitary manner goes without saying. It is doubtful if restaurateurs could adopt any measure that would be so conducive to increased business as the simple provision of strict cleanliness. It is strange that such comment as this should be even possible. It is stranger still that it should be necessary to form a national association to stimulate activity in making restaurants clean. We know, however, that where strict supervision can not be maintained, the stimulation of pride will generally bring results. The California State Board of Health welcomes this organization and will assist it in every way possible in its endeavor to provide cleaner public eating places.

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Oranges and Tomatoes Good for Children.

Oranges and tomatoes are not only of great importance, commercially, to California, but they are also of the utmost importance in promoting the growth of young children and in keeping them well.

Prof. M. E. Jaffa, consulting nutrition expert of the California State Board of Health, has recently called attention to the newer discoveries indicating the importance of including these growth promoting substances in the diet of young children, and the Journal of the American Medical Association, in its last issue, has laid stress upon the special value of orange juice and tomato juice in preventing scurvy and in making babies thrive, particularly those that are artificially fed.

Orange juice, because of its pleasant taste, is deservedly popular. The juices of certain green vegetables also have a beneficial effect in the dietary of the young, but oranges, not only because of their pleasant taste, but also because of their ability to withstand shipping and wide changes of temperature without spoiling, are almost as readily available as canned tomatoes. Fortunately, tomatoes can be dried or canned without losing the properties that make this vegetable valuable in the dietary of young children.

California produces an annual crop of oranges valued at $75,000,000 and a tomato crop that is valued at $6,000,000. The commercial worth of these products is tremendously overshadowed, however, by their importance in promoting the growth and health of children in almost every state of the Union, thus making them into better American citizens.

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Public Health Responsibilities Grow Along With Population.

California cities have shown a substantial growth during the past ten years, according to the 1920 United States Census. One of the most striking features of the new population figures lies in the remarkable growth of some of the smaller cities as well as the phenomenal increase in the population of southern California. Long Beach and Venice more than doubled their respective populations during the decennial period. Richmond increased nearly 150 per cent and Chico's rate of increase was 136.6 per cent.

This growing tendency of the smaller cities of the state is of great importance to the public health. As the population of a city increases, the opportunities for contact infection become greatly multiplied. The quick growth taxes the capacity of sewage disposal plants and of water supplies. The public health responsibilities of these cities increases with the additions to their populations and, unless the public health is maintained in each of these communities, its growth may be to no good purpose. Unless a city is able to take adequate care of its new citizens it might better not grow at all.

Following are the 1920 census populations for the ten largest cities of California, with the percentage of increase for each:

City	Population, 1920	Per cent increase
Los Angeles	575,480	80.3
San Francisco	457,147	21.9
Oakland	213,422	44.1
San Diego	74,683	88.7
Sacramento	65,876	47.3
Berkeley	55,886	38.2
Long Beach	55,593	212.2
Pasadena	45,334	49.7
Fresno	44,616	79.2
Stockton	40,296	73.3

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Why Not Consider Humans as well as Hogs and Plants?

There is a department of the federal government to instruct citizens how to raise better fruits, vegetables and grains. There is a department to advise him how to secure a better education. There is a department to help him in communicating with his fellow citizens. There is another department to give him information to assist him commercially. There is a department to show him how to raise better chickens, hogs and cattle, also how to prevent them from contracting communicable diseases. There is a department to show him how to control plant diseases and undesirable insects.

There is no federal department, however, to advise him how to conserve his own health, how to prevent the contraction of communicable diseases, how to develop physical strength, energy, vitality and reserve. There is need today for stronger, better American citizens and a federal health department should be established to provide service for making citizens into better, healthier Americans. Its executive should have a place in the President's cabinet. It is time that human beings in the United States be given at least equal consideration with plants and animals.

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Goat Dairies Should be Under Supervision.

It has been generally believed for a long time that goats do not suffer from tuberculosis and in many California families, because of this belief, children have been given goat's instead of cow's milk. It is probable, however, that at

least one per cent of all goats are tuberculous, and to feed babies with unpasteurized goat's milk is a dangerous procedure. Dr. J. S. Hibben, health officer of Pasadena, has given cognizance to the problems connected with the goat industry in his city and has recently issued a bulletin in which he urges that goat dairies be placed under rigid supervision. In the bulletin he states:

"The goat industry has assumed such proportions that some supervision is needed. This goat milk is used chiefly for feeding babies, and it is a sense of false security to believe that goats are free from disease. It is just as important that the stock be kept in clean barns and milking done under the same rigid supervision as is required of the cow dairies; also that the milk be properly handled after milking and that it be delivered at proper temperature to the consumer in clean containers."

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How to Prepare Poisoned Grain for Ground Squirrels.

Since a large number of plague-infected ground squirrels have recently been discovered in eleven counties of central California the standard formula for the preparation of poisoned barley is printed here. Lands infested with these rodents should be carefully gone over and every effort made to exterminate these disease-bearing, destructive rodents.

FORMULA FOR THE PREPARATION OF POISONED BARLEY.

(For use in destruction of ground squirrels.)

Whole barley (recleaned)	18 pounds
Strychnine sulphate	1 ounce
Soda (bicarbonate)	1 ounce
Saccharine	1 dram
Thin starch paste	1 pint
Corn syrup (Karo or equal)	2 ounces

Dissolve the strychnine in hot water; thicken with starch to about the consistency of thin soup. Dissolve the soda in one-half pint of hot water and add a little at a time to the poisoned starch until effervescence ceases, then add the syrup and saccharine, mix well and apply to the grain, stirring constantly until the poison is evenly distributed throughout, and the grain is thoroughly dry.

Mr. S. E. Piper of the United States Department of Agriculture, the inventor of this formula, states that it is particularly advantageous on account of the fact that the bitter taste of the strychnine is delayed for several minutes and squirrels can pick up and place in their cheek pouches a considerable quantity before any bitter taste is noted; it is then too late for the squirrel to get rid of the poison, as enough of it has been absorbed through the mucous membranes of the cheek pouches to kill the animal.

Extensive experience with this type of poisoned barley has shown an efficiency far ahead of any other type of poisoned grain tested. Young or half-grown squirrels have, in most instances, been practically exterminated, and the percentage of adults or fullgrown squirrels destroyed is far higher than with other types of poisoned grain used.

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Vacation Days Have Arrived.

Summer days bring rest and recuperation to many tired workers, but not to all of them. Everybody needs a vacation and he is entitled to at least two weeks of play without loss of pay. The State of California recognizes this inherent right of the worker and grants, by law, an annual leave of fifteen working days, on full pay, to each individual in the state service. If you have not yet made plans for a summer vacation begin now. You need it and it rightfully belongs to you.

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Who Pays?

The State of California clothes, houses, feeds and provides medical service to 15,000 insane, feeble-minded, criminal and constitutionally inferior human beings. At least 15 per cent of the inmates of the state hospitals, in which most of these 15,000 wards are found, may trace their present condition to syphilis. It is probable also that many of the criminals, feeble-minded and constitutionally inferior are in their present environment because of syphilis in their parents. The state pays millions every year for the support of these unfortunates. Which is better business, the expenditure of comparatively small sums of money annually for the prevention of syphilis, thereby reducing the expense involved in caring for incompetents of the next generation, or the continued expenditure of many millions annually in caring for these unfortunates without heed to the factors that cause them to become state wards. The taxpayers bear the financial burden and the taxpayers will soon say whether their money shall be spent in prevention or for care—whether the state shall deal with causes or with effects.

Another Typhoid Carrier.

Dr. J. W. Truxaw, health officer at Anaheim, recently had cases of typhoid fever appear in two children who were under his care. He was unable to trace the source of their infection until he determined that the mother had the same disease a year before. Believing that she might be a carrier he had examination made in the laboratory of the Bureau of Communicable Diseases which proved that the mother was a carrier. She was immediately placed under state supervision, and has agreed not to prepare food for the consumption of any person other than herself, nor will she engage in any occupation that might endanger others. She will submit specimens regularly for examination until such time as she may no longer be a carrier.

If health officers will watch carefully for typhoid carriers and take steps to place them under control, they can be of great assistance in eliminating typhoid fever completely. Most cases of this disease that occur at the present time can be traced to an infection transmitted by direct contact or by flies. It is only occasionally that we find an outbreak due to infected milk or water. The typhoid in a carrier or in an unsanitary home has more to do with the typhoid fever problem in California today than does infected milk or water.

Keep a watch for carriers!

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Accredited Public Health Nurses.

Two hundred and ten nurses engaged in public health work with city and county health departments, clinics, tuberculosis societies, social hygiene activities, Red Cross chapters and other welfare organizations have been granted certificates as public health nurses by the California State Board of Health. The public health nurse is the health officer's strongest ally and public health work of today would be tremendously handicapped without her services. The California State Board of Health recognizes the importance of public health nursing and desires to learn of the activities of such nurses in all parts of the state, wherever they may be engaged in working for the advancement of the public health.

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When Is a Dog "Mad"?

A "mad" dog is not suffering from an emotional mental disturbance, but is the victim of an acute infectious disease called rabies. Many persons think that a so-called mad dog is insane, but in reality he is no more insane than is a human being whose muscles of the throat and lower jaw are paralyzed, making it difficult or impossible for him to move his jaws. The term hydrophobia is a misnomer in that the afflicted animal does not mentally fear water. His actions are due to the fact that he wants to drink, but can not do so because of the paralysis of the muscles of the throat. The sight or sound of running water suggests swallowing and induces convulsions.

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The Treatment of Poison Oak.

Vacationists are prone to contract poison oak and some of the simple methods of treatment are enumerated here for the benefit of persons who may be so unfortunate as to suffer from this uncomfortable irritation.

The extremely volatile oil which is so readily transferred to the skin or clothing of the passer-by who brushes against the poison oak plant penetrates the skin very easily and causes the acute irritation. Immediately after exposure to poison oak the individual should wash with soap and warm water, followed by a dusting with talcum powder. If this does not bring relief the application of alcohol or spirits of camphor is advised. The use of greasy ointments or salves should be avoided as they only aggravate the irritation.

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Whooping Cough Prevalent.

Reports of the widespread prevalance of whooping cough come to the State Board of Health from many sources, although the reports received from health officers do not show any very great increase. It is important that cases of whooping cough be reported, as required by law, and health officers should take steps to secure such reports from physicians who may be dilatory in the matter.

This disease is one of the most serious diseases of childhood and miliary tuberculosis more often follows whooping cough than any other communicable disease that is commonly found among young children; and as a predisposing factor in pulmonary tuberculosis whooping cough is second only to measles. All children, but especially very young children, should be protected against this disease. Most deaths from whooping cough occur during the first year of life.

Because of the fact that the disease may be communicated during its late stages and during convalescence it is particularly difficult to control. Every case of the disease should be promptly isolated. It is impossible for the health officer to take control of all cases, because in many families in which cases may occur, physicians are not called. Public health nurses learn of many such cases and are able to give to the health officers reports of cases that might otherwise escape their attention. Children should be guarded against whooping cough as zealously as against diphtheria, scarlet fever, smallpox or any other communicable disease. It is much more dangerous than any one of them.

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Then comes the startling question that pierces the breaking hearts of so many thousand afflicted relatives: "Is there no remedy? Is there no palliation of the evil?" It is one of the greatest triumphs of scientific medicine to be able to reply "Yes, the evil may be palliated and is rapidly being lessened, and for many, at least a remedy has been found." —Osler.

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The Human Element.

Ralph Hilscher, Director of the Bureau of Sanitary Engineering, says: "When you buy a bottle of carbolic acid the druggist carefully places on the bottle a skull-and-cross-bones label as a fair warning to you that the contents cannot safely be used for drinking purposes. A genuine fear is aroused by a label of this kind. But carbolic acid and various other substances that carry such warnings kill fewer people than do contaminated water supplies. Do the persons supplying your drinking water exercise proper care to protect you? The State Board of Health endeavors to assist and guide in providing adequate and reliable water works equipment and it attempts to give instruction and advice to the operators of this equipment. But the operators are human and they must be placed on their honor. It is decidedly to the interest of any community that this human link in its water supply chain shall not be weaker than the rest.

A very severe typhoid fever outbreak occurred during the past month in a small California city because the water supply was not kept continuously safe. The supply is derived from a contaminated river. The purification equipment is adequate if properly operated. It includes coagulating basins, sand filters and a liquid chlorine machine. The filters are intended primarily to make the water clear. Treatment with chlorine has been depended upon to kill harmful bacteria that might not be caught by the filters. A month ago it became necessary to take the liquid chlorine machine out of service for one day to make repairs. An emergency substitute plant for treating the water with chloride of lime is also provided at this plant, but it was not used when the emergency arose. The people of this city, with no warning whatever, were served with a dangerous drinking water. Neither the local health department nor the State Board of Health was notified. Widespread sickness began to develop about one week later.

The people of a city using a water supply that requires purification become accustomed to accepting the delivered product as safe. They pernaps do not realize what unbounded faith they are placing in the honesty and conscientiousness of a few water works employees. If these employees neglect to render the water safe, not most of the time but absolutely all of the time, it is as though they took deliberate steps to bring physical injury on their consumers."

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Child Welfare.

Any effort to improve the welfare of children should bring results which will yield far greater returns than efforts directed toward improving the welfare of adults; the establishment of correct habits in a healthy child ought to insure a healthy adult life. This may be accomplished in two ways. either by training the individual child, or by training groups of children as in public child welfare clinics. It is especially important that this work be done during childhood, because it is now believed that many if not most of the diseases of adult life originated in childhood. Think how much indigestion in the adult could be prevented if proper dietetic habits had been learned during childhood. Think of the deafness, the blindness and the other crippling diseases which could have been prevented if treated skilfully during the age of life which comes under the charge of the obstetrician and the pediatrician. There is much evidence that tuberculosis and endocarditis first gain entrance to the body in childhood. How much easier it would be to cure these diseases at their inception than to cure them after the various organs have been invaded and damaged by them.

—Fritz B. Talbot, M. D.

MONTHLY BULLETIN

CALIFORNIA STATE BOARD OF HEALTH

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BUREAU NEWS NOTES

Under the pure food laws evaporated apples are "evaporated fruit made from peeled, cored and sliced apples and contain not more than 24 per cent of moisture." Inspectors of the State Bureau of Foods and Drugs, under the direction of Prof. E. J. Lea, recently made inspections in the apple-growing districts of Watsonville, Sebastopol, Santa Rosa and Petaluma. As a result, more than 103 tons of improperly dried apples were required to be re-dried in order that they might conform with the required food standards. The inspections further showed that many evaporators were not in sanitary condition. The proprietors of these establishments have made the necessary improvements for complying with sanitation standards.

Every month large quantities of foods are condemned upon physical and chemical examination as unfit for food uses. These consist of tomato puree, most of which is packed in five-gallon cans, and which is condemned for the reason that it is generally moldy and made of putrid materials. Wormy noodles, dirty evaporated fruits containing floor sweepings, rancid nut meats, dirty candies, moldy decomposed meats, and many other food products are condemned and are either dumped, destroyed, denatured, used for fertilizer, or for hog food, or sprayed with coal oil, as the occasion may require. The condemnation of these food stuffs prevents large quantities of materials that are unfit for human consumption from being placed upon the market.

Among the recent convictions under the foods and drugs act are several covering the adulteration of camphorated oil, citrate of magnesia, apple butter, jams, maple syrup, ginger ale, sweet chocolate, walnut meats, soda fountain syrups, canned oysters, and other products that have been found adulterated and mislabeled, were responsible for the convictions of a number of merchants and manufacturers throughout the state. A proprietor of a meat market in Southern California was recently fined $500 for adulterating chopped meat and pork sausage. He used a preservative that is prohibited by law. The manufacturer of a so-called Mineral Wonder was recently fined $100 for mislabeling his product. The sentence was suspended, however, providing the mislabeling is discontinued.

Large numbers of biological examinations are now being made in the Hygienic Laboratory of the Bureau of Communicable Diseases. Considerably more than a thousand Wassermann reactions for syphilis are being made every month. The examination of diphtheria specimens is also running very high. While most of these examinations are made in the Hygienic Laboratory at Berkeley, a considerable number is performed each month in the branch laboratories at Los Angeles and Sacramento.

Dr. W. H. Kellogg, Director of the Bureau of Communicable Diseases, reports that the laboratories are working to full capacity and the employees have necessarily worked overtime during the past few months in order to provide adequate service to the physicians and health officers of the state.

Dr. Frank L. Kelly, Epidemiologist for the California State Board of Health, has recently conducted investigations into the presence of rabies in Fresno, Tulare, Kings, Kern, San Joaquin, and Sacramento counties. The rabies situation in these counties is greatly improved. In the campaign conducted in Fresno County no less than 1500 stray dogs were disposed of during the month of June.

The Bureau of Social Hygiene, under the direction of Dr. W. M. Dickie, has been distributing large quantities of salvarsan products to the various subsidized clinics throughout the state. Shortage of funds will necessarily reduce greatly the quantities of this product that will be distributed hereafter. It is believed, however, that local provision will be made in most cities for the continued distribution of this product. The nineteen social service workers who are associated with the clinics in California cities are accomplishing good results under the supervision of Mrs. Elizabeth McManus, Social Service Director. Large numbers of new patients are brought into the clinics each month, and effective follow-up work is accomplished with patients who have finished their treatment and who may need assistance in securing positions and in securing and maintaining their health and mental poise.

Dr. Ethel M. Watters, Director of the Bureau of Child Hygiene, during June conducted clinics for the examination of children in many counties throughout Superior California. She was accompanied by Miss Mary K. Clary, public health nurse; Miss Charlotte Greenwood, dental hygienist, and Miss Ella Conover, public health nurse. Large numbers of children throughout this section of the state were examined. One of the outstanding features of the examination was the discovery of a large number of children in certain sections of the district who give evidence of having hypertrophied glands. This condition indicates a tendency toward goitre, and it was observed that a large number of adult women in these communities are suffering from goitre. Further investigations will be made in order to determine if possible what factors may have to do with bringing about this condition.

The California Dental Association has become interested in the lamentable condition of children's teeth as revealed in the health conferences which have been held throughout the state. The association has provided exhibit material on the value of good teeth and oral hygiene and is also providing the services of a well-trained dental hygienist for attendance at these conferences.

The Bureau of Child Hygiene plans, during the coming month, to conduct an organized effort with the aid of the public health nurses in various communities of California to learn exactly what facilities may be available for the adequate care of expectant mothers. The Federal Census Bureau has recently announced that as a result of a survey made by that bureau it was learned that of 2989 mothers of new babies only 5 had had adequate care during childbirth. It is believed that conditions in California will not reveal so extensive a lack of care as this, but a survey is planned in order to determine exactly what proportion of expectant mothers may be neglected during this important period.

Mrs. E. L. M. Thompson, Director of the Bureau of Tuberculosis, reports that an inspection of private sanatoria throughout the state has been finished, and that before fall inspections of the state institutions will be made in order that a report can be made before the next legislature meets.

The Director of the Tuberculosis Bureau recently visited the hospital at San Quentin Prison and found the institution in excellent condition. The ward is built around a patio with small trees and hanging baskets for decorations. An interesting feature is the portable wall, arranged so that in bad weather the ward can be closed. All inmates of San Quentin are given a careful examination upon entrance, and those who give evidence of open tuberculosis are immediately placed in the tuberculosis hospital. A citizen who recently visited San Quentin remarked with a degree of pride that the people of California should be glad to know that the state is restoring men in its prisons to as nearly 100 per cent perfect health as is humanly possible instead of sending them back to the communities whence they came as physical wrecks.

With the cooperation of 38 counties in the state, there are now enough tuberculosis beds to handle adult cases who apply for hospital care. Some counties have given permission to use any vacant beds they may have for outside patients. The great need in California now is the provision of places to care for children who may possess tendencies toward tuberculosis.

Alameda County has just opened its new children's building at Arroyo, and five county tuberculosis associations are planning permanent preventoria.

The Bureau of Tuberculosis has been notified from Washington that California is to be allowed one tuberculosis hospital for the care of ex-soldiers and sailors.

BUBONIC PLAGUE.

By WILFRED H. KELLOGG, M. D., Director, Bureau of Communicable Diseases.

The occurrence of a case of human plague during April serves to remind us that the problem of squirrel plague must not be forgotten. With the present wide distribution of plague among the ground squirrels of California this disease is at the present time more a question of concern for the rural than for the city dweller. The possibility of the infection spreading from ground squirrels to the rats of the cities continues to exist; should this occur another human epidemic would be inevitable. But in the meantime sporadic human cases are bound to occur through infection contracted from ground squirrels.

This last human case was in a little girl, seven years old, living several miles out in the country in the vicinity of Hayward. It is presumed that she was infected by fleas which she had picked up while playing near squirrel holes, numbers of which were observed close to the dwelling house.

It is only a few months since the occurrence of a small sharp epidemic of plague pneumonia in Oakland, which was reported in detail in the Bulletin at that time. It is not so much the occurrence of an occasional case of plague that we have to fear as the possibility of some of these isolated cases being the beginning of a serious epidemic of pneumonic plague in the human population. It is to be hoped that the State will appropriate at the next legislature sufficient funds to enable the State Board of Health to cooperate with the United States Public Health Service to an extent commensurate with the seriousness of the situation and with some degree of expectancy that the infection may be eliminated within a couple years at most.

HOOKWORM.

By WILFRED H. KELLOGG, M. D., Director, Bureau of Communicable Diseases.

The campaign against hookworm infection in the mines of California is progressing satisfactorily and we wish here to give publicity to a modification which this Bureau has adopted in the way of a standard treatment for hookworm infection. The experience of the international Health Board and of the United States Army in the treatment of hookworm by saline purges combined with oil of chenopodium has proved very satisfactory. A high percentage of cures has been obtained on a single treatment by means of this method which is as follows, and which is to be the standard official method recommended by this Department.

The former procedure included the administration of castor oil and chloroform, which apparently is disadvantageous in some cases by reason of the increased obsorption of the oil of chenapodium. This result operates to render the treatment at times more or less unpopular. The new method is as follows:

The saturated aqueous solution of magnesium sulphate is administered in the quantity of one ounce at 4 p.m. No supper is given and for breakfast the following day one glass of milk but no other food. Oil of chenopodium in .5 cubic centimeters freshly filled hard gelatin capsules is given at intervals of one hour, at 8, 9 and 10 a.m. One hour after the last capsule of oil of chenopodium an ounce of saturated solution of magnesium sulphate is given. If free purgation with two or three liquid stools does not result from the last dose of magnesium sulphate another must be given, as free purgation is essential. Strong coffee without cream may be administered to counteract any ill effects of the vermifuge on the patient. The coffee may be given by enema if it is not retained by the stomach. All alcohol should be rigidly excluded on the day of treatment, the day before and for several days thereafter. It is also desirable that no fats or oils be taken on the day of treatment. The above dosage is for adults, and children should be given the oil in proportion.

Oil of chenopodium is an effective vermifuge for roundworms (*Ascaris*), whipworm (*Trichuris*) and the dwarf tapeworm (*Hymenolepis*), and most intestinal worms.

The stools should be reexamined to determine whether or not all of the worms have been expelled not earlier than two weeks after treatment. It takes about this time for worms which have not been removed to recover from the drug and resume egg laying. Stools for examination should be addressed to California State Board of Health, Division of Parasitology, East Hall, Berkeley, California. Stools should be sent by express, or if by mail only in approved mailing cases.

COMPOSITION OF THE POPULATION OF CALIFORNIA.

By L. E. Ross, State Registrar of Vital Statistics.

The basis for the study of vital statistics is population. It means little to us to say that there were 4000 deaths in California during April, or that there were 5000 births. The principal value in studies of vital statistics lies in comparing them with other localities, states or countries, and with those for previous periods in our own state. This is done by considering them in relation to the population of the different localities. Therefore, population is a most important basis for consideration in vital statistics. Unfortunately it is seldom that reliable information is at hand on this subject, except once in ten years when the Federal Census is taken. In some states an additional state census is taken during the fifth year following the regular Federal Census, but this is not done in California, and it is necessary for us to rely upon estimates based upon the figures given in the decennial Federal Census, together with such information as may be available from other sources.

The figures given by the census serve very well for the year in which it is taken and estimates based thereon serve fairly well for two or three years thereafter. But as time goes on, these estimates, especially in a state like California, where the population has increased greatly by immigration, becomes less and less reliable until for the eighth or ninth year following the census—1918 or 1919 for instance—the population estimates based on census figures alone are little better than mere guesses. There is as yet no satisfactory method developed in California for making accurate estimates of population. A corporation accurately computes its assets. These are usually many and varied, but nevertheless an accurate figure is usually arrived at. The state may be considered as a corporation with but one single asset, namely, its population; yet the accurate numerical calculation of this asset from year to year remains to be worked out.

Of equal importance with the number of people in the state is the composition of the population. If we say that the annual death rate in California is 14 per thousand inhabitants we have made a statement of a crude rate which really means little. Such a statement hardly gives an accurate idea of the health of the population, for a crude death rate twice as great could mean better health conditions. Death rates, birth rates, and marriage rates are not so simple that they can be adequately expressed in a single figure, desirable as such expression may be. It is only when we take into consideration the distribution of the population by age, race, nativity, etc., with the rates for the various groups, that we begin to get a picture of the true conditions. Consequently, knowledge of the composition of the population is of the utmost importance. Like other figures on population, this must be estimated, and in order to make the estimates of any value it is necessary to consider all the facts available in vital statistics, as well as data contained in the census.

In making the following estimate of the present composition by sex, race, and age of the California population, the census figures are considered in connection with information taken from the statistical compilations of mortality from 1905 to the present time.

Sex.

In 1900 the census shows that for every hundred females there were 123 males in the state, and that in 1910 there were 125 males per 100 females. That is, the relative number of males increased during this period.

Considering the sex distribution of decedents as an indication of sex composition of the population, we find that during the six-year period from 1905 to 1910, for each 100 female deaths there were 165 male deaths. Continuing the investigation of this feature to and including the year 1919, we find that during this nine-year period the ratio of male to female deaths declined to 154 males to 100 females. Plotting the ratio for each year shows that up to 1910 the relative number of male deaths steadily increased and from then on there has been a consistent decline.

Without attempting to explain the great difference between the census population ratios and those for deaths, but considering the figure in the light of the information desired, it would appear that up to 1910 the relative number of males in the population increased as indicated by both the mortality and census figures, but from that to the present time the ratio has decreased.

In 1910 the ratio was 125.5 males to 100 females, and the mortality average for six years was 165.4 males to 100 females. For the period from 1911 to 1919 inclusive, the average mortality was 154.4 males to 100 females. Assuming

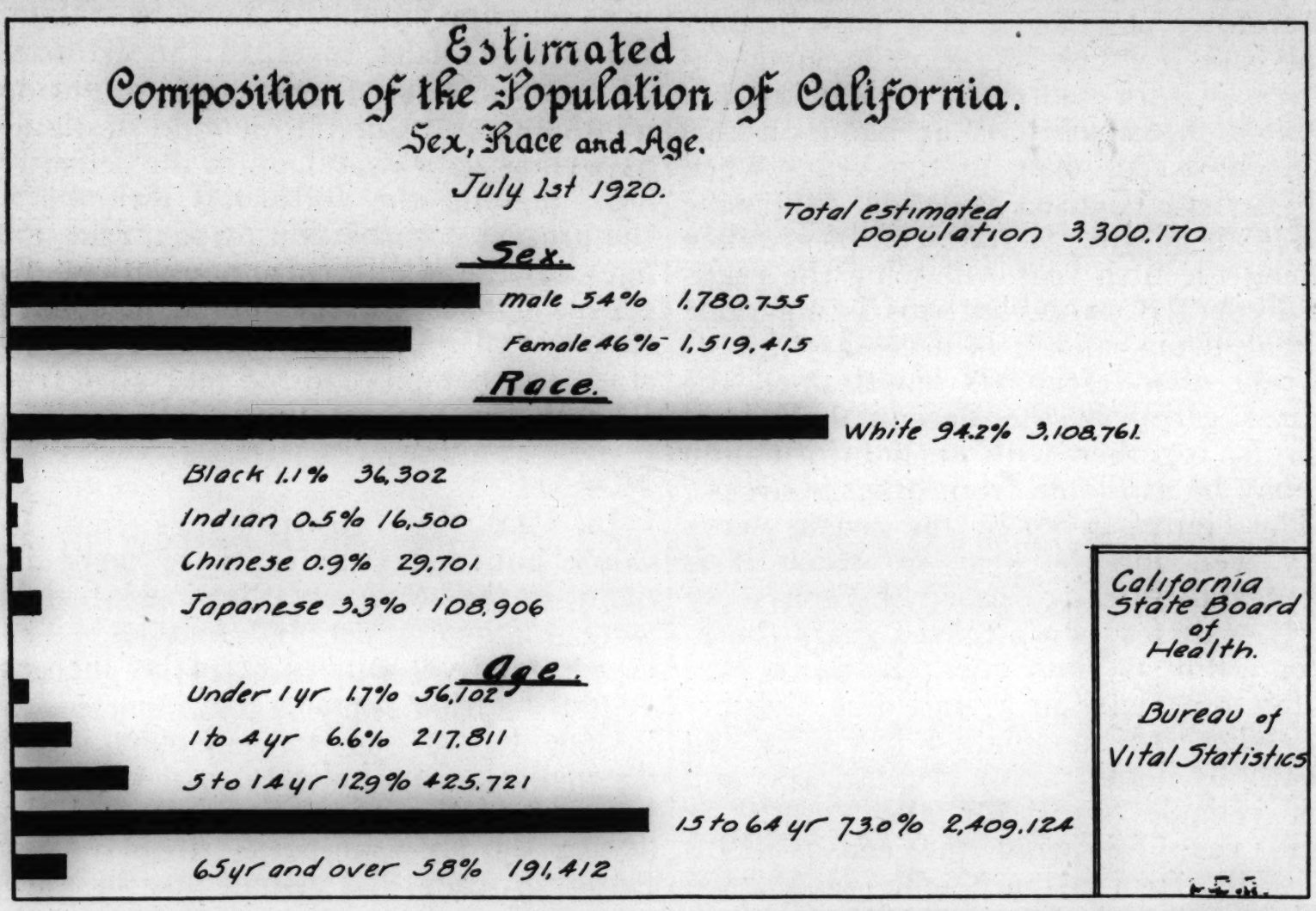
that these ratios still hold good we may evolve the formula:

$$165.4 : 125.5 :: 154.4 : X$$

in which X equals the present ratio of males to females. Solving this equation gives 117.2 males per 100 females.

The estimated midyear population of California for 1920 is 3,300,170. Using the above ratios we have 1,780,755 males and 1,514,415 females. Were the estimates based on census figures alone, it would show a continued increase in the proportion of males in the population.

The problem may now be stated in simple terms thus: If in a given period the white race increased 36.6 per cent and contributed 94.6 per cent of the deaths, what per cent will it increase in a period in which it contributes 94.3 per cent of all the deaths. On this basis a variation of 1 per cent in deaths will mean a variation of .3868 per cent in the percentage increase of the population. As the percentage of deaths varied (decreased) 0.3 per cent in the two periods, it follows that the percentage increase in the population varied .3 times .3638 or .1



The trend of mortality, as stated above, indicates a decrease in the ratio.

Race.

Considering the white race we find that at the 1900 census 94.5 per cent of the population was white, while at the 1910 census 95.0 per cent was of this race.

Examining next the death figures, we find that for the period 1905 to 1910 (California has no vital statistics back of 1905) the white race contributed 94.6 per cent of all deaths. Assuming a regular rate of increase in the population between the censuses, and taking this period as ten years (close enough for our purpose), we find that during the six years 1905 to 1910, inclusive, the population increased 36.6 per cent.

Next, taking the white deaths for 1911 to 1919. inclusive, the period over which the estimate is to be made, we find the white race contributing 94.3 per cent of all the deaths.

per cent negatively. Therefore it may be assumed that during the period from 1911 to 1919, inclusive, the white population increased 36.6 minus .1 or 36.5 per cent. In 1910 the white population was 2,269,672; 136½ per cent of this is 3,084,452, the estimated theoretical white population for 1919.

The problem is stated by the following formula:

Let A = population in 1910.
B = per cent population increase 1905 to 1910.
C = per cent of total deaths 1905 to 1910.
D = per cent of total deaths 1911 to 1919.
E = estimated population, 1919.

Then

$$E = A\left[100 + B + (D\text{-}C) \times \frac{B}{C}\right]$$

The value of the formula is to obtain from the figures resulting therefrom the percentage distribution of the races. Applying this formula to the various races,

and reducing the result to percentages, we obtain as estimates of population distribution the following:

White	94.2 per cent
Black	1.1 per cent
Indian	.5 per cent
Chinese	.9 per cent
Japanese	3.3 per cent

The estimated population for 1920 is 3,300,170. Applying these percentages we get the following distribution of the population by race:

White	3,108,761
Black	36,302
Indian	16,500
Chinese	29,701
Japanese	108,906

Age.

The same principle may be applied to the age distribution of the population. Here, however, further difficulties are found by reason of changes having been made in the age groups for deaths. Up to 1910 inclusive, only five age groups are given in the mortality tables, all deaths between 15 and 64 years having been grouped together. From 1911 to 1913 the deaths were grouped in ten-year periods, each period beginning with 5, as 5 to 14, 15 to 24, etc. In 1914 and 1915 they were grouped in ten-year periods, as 20 to 29, 30 to 39, etc. In 1916 the groups were changed back to the former system. The groups for under one year, 1 to 4 years and 5 to 14 years, however, were retained throughout. It is difficult to satisfactorily divide the period 15 to 64 years, into any subdivisions, and it has not been done. The corresponding error in the age group, 65 years and over, serves to offset any merit there may be in this system of estimating the present numerical value of this age group, but it is hoped that the estimate is better than nothing at all, so the formula has been applied. The result shows the following percentage distribution of the population by age:

Under 1 year	1.7 per cent
1 to 4 years	6.6 per cent
5 to 14 years	12.9 per cent
15 to 64 years	73.0 per cent
65 and over	5.8 per cent

Applying these percentages to the estimated population of the state for 1920 gives the following:

Under 1 year	56,102
1 to 4 years	217,811
5 to 14 years	425,721
15 to 64 years	2,409,124
65 and over	191,412

Median Age.

In 1900 the median age (half older and half younger) of the Californian was 27.14 years. In 1910 it had advanced to 28.27 years. On account of the broad age group 15 to 64, in the present estimate of the age composition, it is not possible to make a satisfactory estimate of the median age for 1920. From study of the mortality records, however, the assumption seems to be justified that the median age has advanced to at least 30 years.

The curve representing percentage increases in the various age groups between 1900 and 1910 shows three peaks, at groups 1 to 4 years, 25 to 34 years, and 65 years and over. The greatest increase occurred in the 25 to 34-year group. These facts lead to the conclusion that there are two principal classes of immigrants coming to California. First, the young adults, married and bringing their children with them, and second, the aged who come to California to spend the balance of their lives in this state.

THE MOTHER CABRINI PREVENTORIUM.

Burbank, Los Angeles County, California.

By Geneva S. Orcutt, R. N., Children's Agent, California State Board of Control.

The Mother Cabrini Preventorium, recently completed, has been built by the Missionary Sisters of the Sacred Heart and is located three miles north from the town of Burbank, fifteen miles from the center of Los Angeles. Nestled against the hillside and constructed of red brick, this building presents a most imposing picture as one drives through the San Fernando Valley. The site is ideal for the surrounding property is planted to olive groves, grapes and some citrus as well as deciduous fruits.

The capacity of the building is for one hundred girls from the ages of three to fifteen years who may be physically below par or potentially tuberculous. For some time past these sisters have owned this ranch of about forty acres and have frequently cared for small groups needing country life.

WILL CARE FOR ORPHANAGE CLASS.

In Los Angeles they maintain the Regina Coeli Orphanage at 610 North Hill

street, the Mother Cabrini Day Nursery, 1412 Mateo street, and a Parochial School on Castellar and Alpine streets. The greater portion of the children cared for by these sisters are of Spanish, Mexican or Italian parentage and in handling these groups many physically below par have come under their charge. The work of the Preventorium, however, will be confined principally to children of the orphanage class.

The building is two stories and is 100 feet in length and 70 feet wide. Screened porches are built around the four sides of both floors. These are 14 feet wide on the front and rear and 10 feet on the sides. According to climatic conditions these will accommodate a large number of beds. The first floor contains the reception room, three school rooms, a dining room and the kitchen. A long hallway runs through the middle of the house. The lower porch is screened at the rear with the intention of having meals served outside as much as possible. The second floor has one long dormitory occupying the front half of the house. The rear half is divided and has one small dormitory, bath rooms, lavatories, clothes room and a dental room. Individual lockers are built in the hallway.

The medical work will be conducted in conjunction with the Los Angeles Tuberculosis Society, while the diagnostic work will be carried on through the staff of physicians now giving their services to the clinic conducted by the Bureau of Catholic Charities at 1441 North Main street. Children will be admitted through the above Bureau and on the diagnosis and recommendation of the above-named staff.

PREVENTORIUM MUCH NEEDED.

The Missionary Sisters of the Sacred Heart have been doing welfare work in the city of Los Angeles since 1905. Mother Cabrini, for whom their recent work is named, founded the order in Rome in 1880. The Mother House in New York supervises their hospital and orphanage work throughout the United States. On Mother Cabrini's last visit to Los Angeles in 1917 she made known her wish to perpetuate some sort of medical work for children, and when the State Board of Control made it apparent to these sisters that preventorium work was so needed in Southern California, they proceeded at once to erect this building.

Mother Cabrini Tuberculosis Preventorium for Children at Burbank, Los Angeles County.

The formal opening will take place within a few weeks when one of the sisters will arrive from the East to take over the management. Fifty beds and furnishings and fifty chairs have been recently donated, and a dental outfit has also been procured. There are still a number of necessary things to be provided and any donations along this line will be gratefully received. When all is ready, numbers of little girls now awaiting this care can be accommodated.

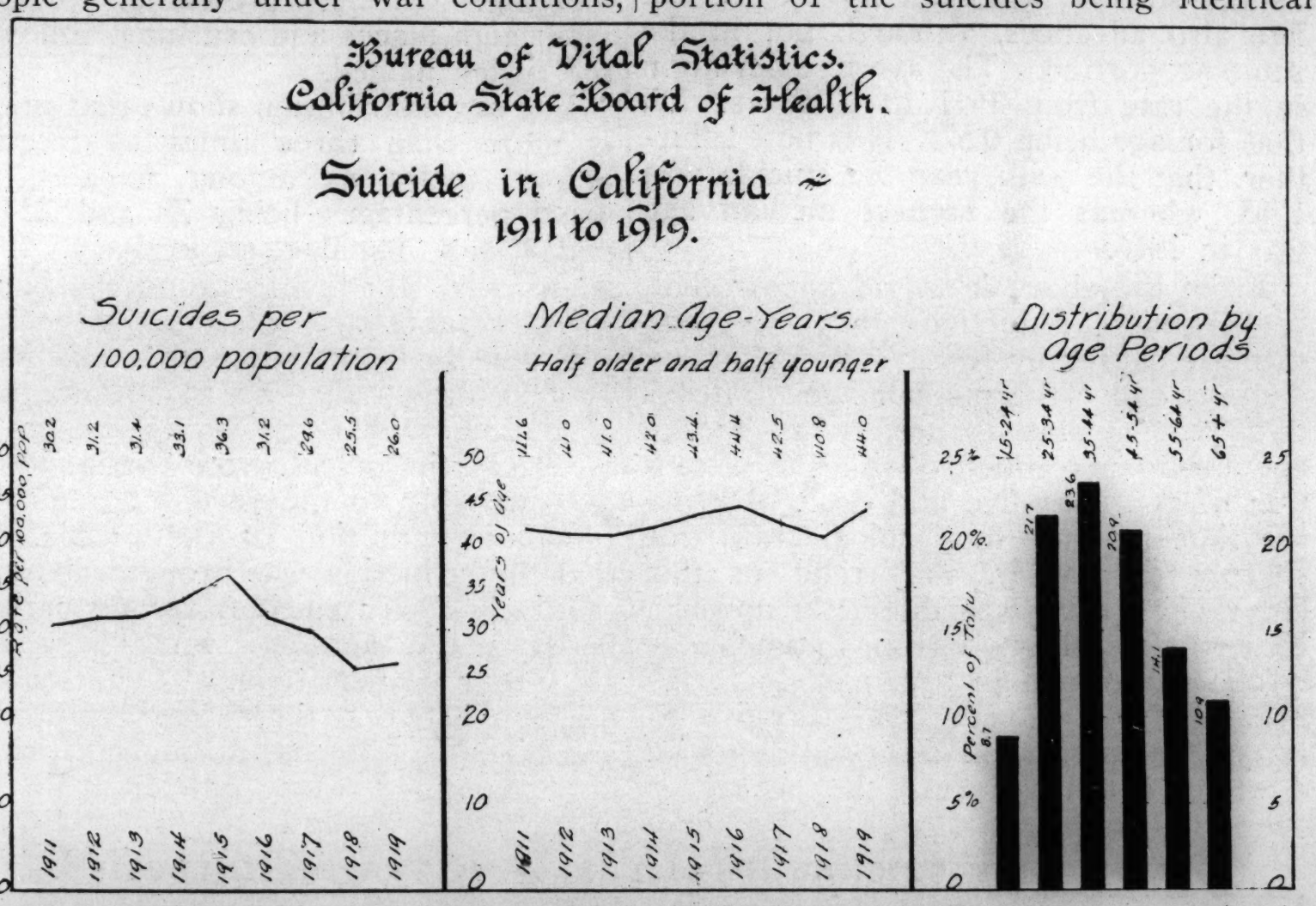
Special praise is due this group of women for this step, as it is the first building to be erected for this definite purpose in the State of California.

SUICIDE IN CALIFORNIA.

By L. E. Ross, State Registrar of Vital Statistics.

Studies of mortality from suicide in the past have indicated that as the economic condition of the people improves, suicide is reduced. During the last decade prices of commodities have sharply advanced and it is claimed by some that wages in general have not kept pace with this increase. If this is true the economic condition of the people is probably worse than it was before; but if we look to suicide mortality for confirmation of this we are disappointed. It has also been observed that war conditions cause a marked decrease in suicides. The tendency toward improvement in the economic condition of the people generally under war conditions, possibly indicating a return to pre-war conditions in this respect.

A study of deaths from suicide according to race of decedents indicates that among the Japanese this method of terminating life is relatively more common than among other races, the explanation possibly lying in the age composition of the Japanese population. The Japanese in California are largely young adults, the majority of them probably being nearer the median suicide age than is true of the other races (forty-two years as shown below). Although the Japanese from 1911 to 1919 contributed only 1.9 per cent of all the deaths, 3.1 per cent of the suicides were Japanese. The Chinese come next in order, their proportion of the suicides being identical



coupled with the increased opportunities for service, appear to bring down the suicide death rate. One of the most striking effects of the war on mortality statistics in California is to be found in the death rate from this cause. The tendency toward lower death rates from suicide, however, was in evidence before we entered the war, not only in California, but in other states as well.

In 1911 the death rate from suicide was 30.2 per hundred thousand population. There was a steady increase in the rate until 1915, when the rate was 36.3 per hundred thousand estimated population. During the next three years there was a sharp decline until, for the year 1918, the rate was 25.5, the lowest for any recent year in this state. The rate advanced slightly in 1919, being 26.0 per hundred thousand estimated population, with their proportion of the total deaths, namely, 1.9 per cent. The white race, contribution 94.3 per cent of all deaths, show 94.1 per cent of the suicides, indicating that in a relative sense the white man prefers to die by other means. Negroes contributed 1.5 per cent of all deaths during the period under consideration, and show only 6.7 per cent of the suicides, while Indians show still less tendency toward self-destruction, contributing 0.5 per cent of all deaths and only 0.2 per cent of the suicides.

AVERAGE SUICIDE AGE FORTY-TWO.

The average Californian who kills himself is forty-two years of age. During the period from 1911 to 1919 the median age of decedents dying from this cause was 42.4 years. It is interesting to note in this connection that considering the

deaths from all causes the median age at death in this state is approximately fifty years. Therefore it might be said that the average suicide dies eight years before his time. It has been estimated that the average person produces wealth to the amount of one hundred dollars per annum in excess of what he consumes. In 1919 there were 834 suicides and if each died eight years before his time there was a net loss of $667,200 for this year alone—a very conservative figure. Taking the time of the average person as worth four dollars per day, and considering 280 working days per year, gives a total loss of $7,472,640 in 1919 from suicides in this state.

The movement of the median age from year to year exhibits a certain degree of synchronism with the rate. That is, as the suicide rate goes up the median age also advances, although not in the same proportion. The average deviation in the rate from 1911 to 1919 was 1.9, that for age being 0.57. It is noted, further, that the peak year for suicide was 1915, whereas the highest median age was in 1916.

From the above it would appear that, in the main, reductions in the suicide rate are caused by fewer suicides among persons above the median age of forty-two years. This is borne out by the age group percentages with the exception of age sixty-five and over. During the time that the total suicide rate was sharply decreasing, the trend in this latter age group was distinctly upward. Nevertheless, the two groups immediately above the median age, namely forty-five to fifty-four years and fifty-five to sixty-four years, show a very pronounced downward trend during the period of decrease in the total rate. The three younger age groups show material increases during this period. From this it is seen that the relative proportion of suicides in the young varies inversely with the total rate and that decreases in the California suicide rate are caused by fewer deaths from this cause among persons above the median "suicide age." This is further indicated by the figures for 1919, when the total rate took a slight upward turn, accompanied by percentage increases in the age groups above the median and decreases in all three of the younger groups.

SHOOTING IS MOST POPULAR METHOD.

Suicide by firearms is by far the most popular method, about 45 per cent being by this means. Taking poison comes next, with 13 per cent of the total; asphyxia is third with 12 per cent; hanging, cutting, drowning, jumping from high places and crushing, follow in the order named.

The sex distribution shows that suicide is more than three times as frequent among males as among females, the usual percentages being 78 and 22 for males and females respectively. That is to say, for every hundred female suicides there are 356 male.

From the above data the conclusion may be drawn that, in accordance with past observations, the war caused a decrease in the suicide rate in California, due probably to the resulting improved economic condition of the people, and that the reduction was brought about by relatively fewer suicides among persons between the ages of forty-three and sixty-four years of age. Obviously it is persons between these age limits that are adversely affected during hard times by competition with individuals in the younger age groups.

DEATHS FROM SUICIDE IN CALIFORNIA, 1911 TO 1919, INCLUSIVE.

Year	Total deaths	Rate per 100,000 population	Race					Age periods						Median age
			White	Black	Indian	Chinese	Japanese	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 and over	
1911	752	30.2	706	6	2	14	24	79	155	187	155	81	95	41.6
1912	803	31.2	758	9	------	16	20	67	196	197	170	99	74	41.0
1913	837	31.4	795	7	1	14	20	81	190	208	160	111	87	41.0
1914	912	33.1	845	8	4	24	31	85	203	212	183	145	84	42.0
1915	1,035	36.3	984	6	2	19	24	74	218	240	223	173	107	43.4
1916	917	31.2	868	8	2	15	24	77	175	199	221	151	94	44.4
1917	898	29.6	845	3	3	12	35	85	192	203	194	106	118	42.5
1918	813	25.5	758	5	1	22	27	63	196	213	154	98	86	40.8
1919	834	26.0	780	6	2	13	33	65	169	183	174	157	106	44.0
Totals	7,801	------	7,339	58	17	149	238	697	1,694	1,842	1,634	1,101	851	42.4
Per cent	------	------	94.1	0.7	0.2	1.9	3.1	8.7	21.7	23.6	20.9	14.1	10.9	
Per cent of total deaths in same period	------	------	94.3	1.5	0.5	1.9	1.9							